T-ACS/Containership Interface (TCI)

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OBJECTIVE

Investigate geometries of T-ACS and Post-Panamax sized containerships (PPC), to identify problem areas and propose solutions.

APPROACH

Obtain data on various containership sizes and analyze geometry interface with T-ACS during SS-3 conditions. Determine compatibility of current mooring and fendering techniques for use with larger ships. Highlight potential interferences and evaluate possible solutions.

PAYOFF

Identify problem areas and propose solutions to improve container offloading using PPC's in future JLOTS operations.

Status

Study report with POA&M in progress.

Issues:

•With the wide beam of the PPC, a second T-ACS is needed to reach all of the cargo.

•With two T-ACS, one will always be exposed to sea-state conditions, thereby reducing overall lighter throughput.

•Standard single point moor of T-ACS may not be enough to support additional load of PPC and second T-ACS.

•Use of 6 ft fender at weatherdeck does little to prevent impacts.

•Crane boom can reach and remove cargo from PPC centerline, but potential impacts with T-ACS

Initial Recommendations:

•With PPC using multipoint anchoring, T-ACS in protected lee does lighter offload while second T-ACS only moves containers to opposite side.

•CEC on board a PPC would move cargo to ship's outer edge. Provided with larger fenders for standoff, a single T-ACS can then complete all offloading and operate in higher roll conditions.

•Add a lightweight second fender layer at weatherdeck (i.e. air bags/SeaFlex?) to reduce impact potential between both ships.

•Investigate rigid fenders & vacuum mooring technology

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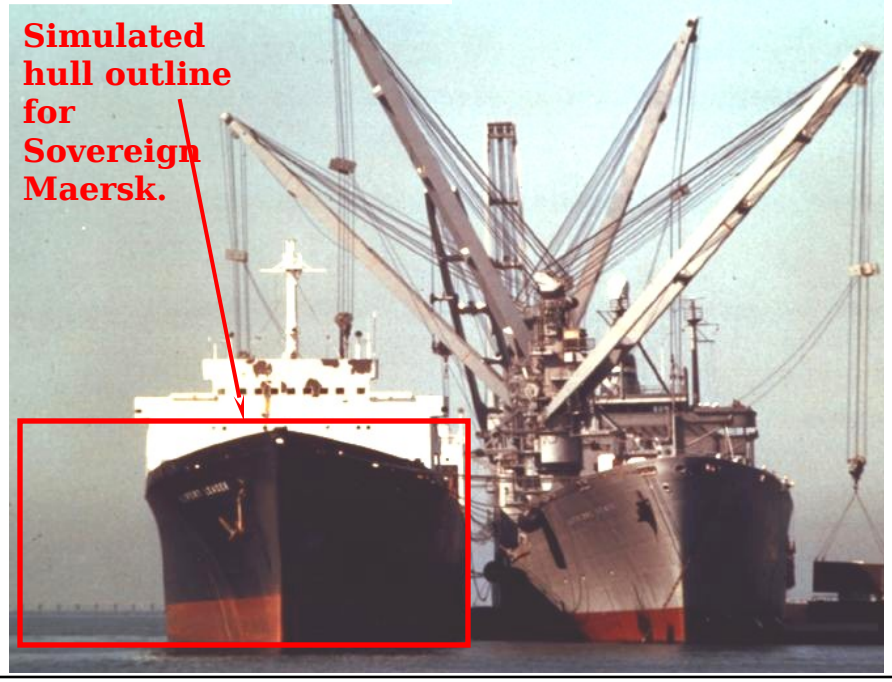

Interface Problems:

- RBTS arms can conflict with PPC hull structure or container stack starting with a relative 3.5 degree combined roll angle from both the T-ACS and Post-Panamax Containership (PPC).
- T-ACS superstructure can impact PPC hull or container stack starting with about 8 degrees of combined roll
- Crane boom can reach and remove cargo from PPC centerline, but boom clearance w/r PPC hull may not be adequate when operating with swell induced heave,